

What is claimed is:

1. An electrochemical sensor having a working electrode, a counter electrode and a reference electrode, wherein a means for examining the reference electrode is provided for examining an electric potential of the reference electrode.

2. The electrochemical sensor as claimed in Claim 1, wherein an immobilized enzyme layer is formed at least on the working electrode.

3. The electrochemical sensor as claimed in Claim 2, wherein a diffusion-limiting layer containing fluoroalcohol ester of polycarboxylic acid, which is formed so as to cover at least the working electrode and the reference electrode, is provided on the immobilized enzyme layer.

4. The electrochemical sensor as claimed in Claim 1, wherein a spare reference electrode is provided for use in place of the reference electrode when the means for examining the reference electrode detects an abnormal electric potential of the reference electrode.

5. The electrochemical sensor as claimed in Claim 4, wherein an immobilized enzyme layer is formed at

least on the working electrode.

6. The electrochemical sensor as claimed in Claim 5, wherein a diffusion-limiting layer containing fluoroalcohol ester of polycarboxylic acid, which is formed so as to cover at least the working electrode and the reference electrode, is provided on the immobilized enzyme layer.

7. The electrochemical sensor as claimed in Claim 4, wherein a means for switching the reference electrode is provided by which the spare reference electrode is used in place of the reference electrode when the abnormal electric potential is detected by the means for examining the reference electrode.

8. The electrochemical sensor as claimed in Claim 7, wherein an immobilized enzyme layer is formed at least on the working electrode.

9. The electrochemical sensor as claimed in Claim 8, wherein a diffusion-limiting layer containing fluoroalcohol ester of polycarboxylic acid, which is formed so as to cover at least the working electrode and the reference electrode, is provided on the immobilized enzyme layer.

10. The electrochemical sensor as claimed in Claim
4, wherein a means for informing is provided to inform
the time of replacing the reference electrode when the
5 abnormal electric potential is detected by the means for
examining the reference electrode.

11. The electrochemical sensor as claimed in Claim
10, wherein an immobilized enzyme layer is formed at
10 least on the working electrode.

12. The electrochemical sensor as claimed in Claim
11, wherein a diffusion-limiting layer containing
fluoroalcohol ester of polycarboxylic acid, which is
15 formed so as to cover at least the working electrode and
the reference electrode, is provided on the immobilized
enzyme layer.

13. The electrochemical sensor as claimed in Claim
20 10, wherein a means for switching the reference
electrode is provided by which the spare reference
electrode is used in place of the reference electrode
when the abnormal electric potential is detected by the
examining measures of the reference electrode.

25

14. The electrochemical sensor as claimed in Claim

13, wherein an immobilized enzyme layer is formed at least on the working electrode.

15. The electrochemical sensor as claimed in Claim 14, wherein a diffusion-limiting layer containing fluoroalcohol ester of polycarboxylic acid, which is formed so as to cover at least the working electrode and the reference electrode, is provided on the immobilized enzyme layer.

16. The electrochemical sensor as claimed in Claim 1, wherein the means for examining the reference electrode comprises having an examining electrode as a standard to measure the electric potential of the reference electrode and a measuring apparatus by which a potential difference between the examining electrode and the reference electrode is measured.

17. The electrochemical sensor as claimed in Claim 16, wherein an immobilized enzyme layer is formed at least on the working electrode.

18. The electrochemical sensor as claimed in Claim 17, wherein a diffusion-limiting layer containing fluoroalcohol ester of polycarboxylic acid, which is formed so as to cover at least the working electrode and

the reference electrode, is provided on the immobilized enzyme layer.

19. The electrochemical sensor as claimed in Claim 5 16, wherein a spare reference electrode is provided for use in place of the reference electrode when the means for examining the reference electrode detects an abnormal electric potential of the reference electrode.

10 20. The electrochemical sensor as claimed in Claim 19, wherein an immobilized enzyme layer is formed at least on the working electrode.

21. The electrochemical sensor as claimed in Claim 15 20, wherein a diffusion-limiting layer containing fluoroalcohol ester of polycarboxylic acid, which is formed so as to cover at least the working electrode and the reference electrode, is provided on the immobilized enzyme layer.

20

22. The electrochemical sensor as claimed in Claim 19, wherein a means for switching the reference electrode is provided by which the spare reference electrode is used in place of the reference electrode 25 when the abnormal electric potential is detected by the means for examining the reference electrode.

23. The electrochemical sensor as claimed in Claim 22, wherein an immobilized enzyme layer is formed at least on the working electrode.

5

24. The electrochemical sensor as claimed in Claim 23, wherein a diffusion-limiting layer containing fluoroalcohol ester of polycarboxylic acid, which is formed so as to cover at least the working electrode and the reference electrode, is provided on the immobilized enzyme layer.

25. The electrochemical sensor as claimed in Claim 19, wherein a means for informing is provided to inform the time of replacing the reference electrode when the abnormal electric potential is detected by the means for examining the reference electrode.

26. The electrochemical sensor as claimed in Claim 25, wherein an immobilized enzyme layer is formed at least on the working electrode.

27. The electrochemical sensor as claimed in Claim 26, wherein a diffusion-limiting layer containing fluoroalcohol ester of polycarboxylic acid, which is formed so as to cover at least the working electrode and

the reference electrode, is provided on the immobilized enzyme layer.

28. The electrochemical sensor as claimed in Claim 25, wherein a means for switching the reference electrode is provided by which the spare reference electrode is used in place of the reference electrode when the abnormal electric potential is detected by the means for examining the reference electrode.

29. The electrochemical sensor as claimed in Claim 28, wherein an immobilized enzyme layer is formed at least on the working electrode.

30. The electrochemical sensor as claimed in Claim 29, wherein a diffusion-limiting layer containing fluoroalcohol ester of polycarboxylic acid, which is formed so as to cover at least the working electrode and the reference electrode, is provided on the immobilized enzyme layer.

31. An electrochemical sensor having a working electrode, a counter electrode and a reference electrode, wherein a spare electrode is provided for use in place of the reference electrode when a use of the reference electrode is stopped.

32. The electrochemical sensor as claimed in Claim 31, wherein an immobilized enzyme layer is formed at least on the working electrode.

5

33. The electrochemical sensor as claimed in Claim 32, wherein a diffusion-limiting layer containing fluoroalcohol ester of polycarboxylic acid, which is formed so as to cover at least the working electrode and the reference electrode, is provided on the immobilized enzyme layer.

10

34. The electrochemical sensor as claimed in Claim 31, wherein a means for switching the reference electrode is provided by which the spare reference electrode is used in place of the reference electrode when the use of the reference electrode is stopped.

15

35. The electrochemical sensor as claimed in Claim 34, wherein an immobilized enzyme layer is formed at least on the working electrode.

20

36. The electrochemical sensor as claimed in Claim 35, wherein a diffusion-limiting layer containing fluoroalcohol ester of polycarboxylic acid, which is formed so as to cover at least the working electrode and

25

the reference electrode, is provided on the immobilized enzyme layer.

0324001 030901
T08080 "T0042550